

Amendments to the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of real-time identification and verification of the identity of a person comprising the following steps:

- capturing an image of a fingerprint of the person at a portable handheld device, said device comprising a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, while the handle portion of the portable handheld device is grasped by a single hand ~~of~~ by an operator of the portable handheld device and the apparatus is operated via the user interface during image capture of the fingerprint;

- processing the captured fingerprint image at the portable handheld device to determine if the fingerprint image meets a predetermined quality level;

- storing fingerprint images that satisfy the predetermined fingerprint quality level in temporary data storage of the portable handheld device;

- enhancing the fingerprint image at the portable handheld device;

- after enhancing the fingerprint image, transmitting fingerprint images that satisfy the predetermined fingerprint quality level to a central processor for processing;

- processing the transmitted fingerprint images to determine if there is matching fingerprint information in central data storage;

- receiving data from the central processor relating to the processed fingerprint images at the portable handheld device; and

- displaying the data received on a display of the portable handheld device.

2. (Previously Presented) The method of claim 1, wherein the step of capturing a fingerprint image includes the steps of:

- positioning the finger on a finger receiving surface of the portable handheld device;

and

- scanning a slap imprint of the finger.

3. (Original) The method of claim 2, wherein the finger receiving surface captures fingerprint images in varying illumination conditions ranging from bright sunlight to total darkness.

4. (Previously Presented) The method of claim 2, wherein the step of capturing a fingerprint image includes the steps of:

positioning the finger on a finger receiving surface of the portable handheld device;
and
scanning a rolled fingerprint.

5. (Previously Presented) The method of claim 1, wherein the step of capturing a fingerprint image comprises scanning a latent imprint.

6. (Previously Presented) The method of claim 1, wherein the step of capturing a fingerprint image includes the step of determining the image quality of the fingerprint image captured.

7. (Previously Presented) The method of claim 1, wherein the step of transmitting fingerprint images includes the steps of:

a wireless transmission from the portable handheld device to a wireless mobile unit for processing; and
wireless transmission from the wireless mobile unit to the central processor for comparison of the fingerprint images transmitted to a plurality of previously stored images to determine identity and background of the person.

8. (Previously Presented) The method of claim 1, further including the step of capturing a facial image and transmitting the captured facial image to a central processor, wherein the step of transmitting the facial image to the central processor includes the steps of:

a wireless transmission from the portable handheld device to a wireless mobile unit for processing; and
wireless transmission from the wireless mobile unit to the central processor for comparison of the facial image transmitted to a plurality of previously stored facial images to determine identity and background information of the person.

9. (Original) The method of claim 1 further including the steps of recording, displaying, and transmitting live video images captured, wherein the step of transmitting the live video images captured includes the steps of:

a wireless transmission of the live video images captured from the portable handheld device to a wireless mobile unit for processing; and
wireless transmission of the live video images captured from the wireless mobile unit to the central processor for storage in central data storage.

10. (Previously Presented) The method of claim 1 further including the steps of recording, playing back, displaying, analyzing, and transmitting audio information captured, wherein the step of transmitting the audio information captured includes the steps of:

a wireless transmission of the audio information captured from the portable handheld device to a wireless mobile unit for processing; and

wireless transmission of the audio information from the wireless mobile unit to the central processor for comparison of the audio information transmitted to a plurality of previously stored voice files to determine identity and background information of the person.

11. (Previously Presented) The method of claim 1 further including the step of capturing identification data from an external source.

12. (Previously Presented) The method of claim 11 wherein the external source is an identification card having a magnetic strip bar code.

13. (Original) The method of claim 11 wherein the external source is a smart card.

14. (Original) The method of claim 1 including the step of capturing geographical position and direction data.

15. (Original) The method of claim 1 including the step of transmitting a signal for emergency assistance.

16. (Previously Presented) A portable apparatus for identification and verification of a fingerprint comprising:

a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, wherein the handle portion and user interface portion are configured to allow the handle portion to be held by a single hand of an operator and the apparatus operated via the user interface using the same hand during image capture of the fingerprint;

a finger-receiving surface located at the distal end of the handle portion for receiving images of a fingerprint of a subject while the apparatus is being handheld by the operator;

a sensor positioned within the housing for capturing the fingerprint images from the finger-receiving surface;

a processor positioned within the housing and electrically connected to the sensor for processing the fingerprint images captured to determine if the fingerprint images captured meet a minimum fingerprint quality level;

a transmitter positioned within the housing and electrically connected to the processor for transmitting fingerprint images to a central processor for identification and verification; and

a module configured to operate within the processor for the enhancement of the fingerprint images prior to transmittal of the fingerprint images.

17. (Previously Presented) The portable apparatus of claim 16, further including a module within the processor that provides for the capture of the fingerprint images prior to transmittal.

18. (Previously Presented) The portable apparatus of claim 16, further including data storage electrically connected to the sensor for storing the fingerprint images captured that meet a minimum fingerprint quality level.

19. (Previously Presented) The portable apparatus of claim 16, including a removable baffle for preventing illumination sources to interfere with capturing the fingerprint images on the finger-receiving surface.

20. (Previously Presented) The portable apparatus of claim 16 including a recorder for recording and playing back audio and video information.

21. (Original) The portable apparatus of claim 16 wherein the user interface includes a card reader for entry of identification data from smart cards or cards having magnetic strips.

22. (Original) The portable apparatus of claim 16 wherein the user interface includes a bar code reader for entry of identification data.

23. (Previously Presented) The portable apparatus of claim 16 including a GPS receiver electrically connected to the processor to provide for the capture of geographical position and direction data.

24. (Original) The portable apparatus of claim 16 including a wireless transmitter electrically connected to a single switch and the processor for transmitting a signal for emergency assistance when the single switch is engaged.
25. (Original) The portable apparatus of claim 16 wherein the user interface includes a data entry device for entry of text or voice data.
26. (Previously Presented) The portable apparatus of claim 16 further including a latent fingerprint alignment guide.
27. (Original) The portable apparatus of claim 16 wherein the transmitter is a wireless transmitter.
28. (Previously Presented) The method of claim 1, wherein enhancing the fingerprint image comprises at least one of the following steps:
thresholding the image;
enhancing contrast of the image;
enhancing sharpness of the image; and
inverting the image.
29. (Currently Amended) A method of real-time identification and verification of the identity of a person comprising the following steps:
capturing a facial image of the person at a portable handheld device, said device comprising a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, while the handle portion of the portable handheld device is being grasped by a single hand of an operator of the portable handheld device and the apparatus is operated via the user interface during capture of the facial image;
storing the facial image in temporary data storage of the portable handheld device;
transmitting the facial image to a central processor for processing;
processing the transmitted facial image to determine if there is matching facial information in central data storage;
receiving data from the central processor relating to the processed facial image; and
displaying the data received on a display of the portable handheld device.

30. (Previously Presented) The method of claim 29 wherein the step of capturing a facial image may be performed in varying illumination conditions ranging from intense illumination to total darkness.

31. (Currently Amended) A method of real-time identification and verification of the identity of a person comprising the following steps:

- capturing an image of a fingerprint of the person at a portable handheld device, said device comprising a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, while the handle portion of the portable handheld device is grasped by a single hand ~~by~~ of an operator of the portable handheld device and the apparatus is operated via the user interface during image capture of the fingerprint;

- storing the fingerprint image in data storage of the portable handheld device;

- transmitting the fingerprint image to a central processor for processing;

- processing the transmitted fingerprint image to determine if there is matching fingerprint information in central data storage;

- receiving data from the central processor relating to the processed fingerprint image at the portable handheld device; and

- displaying the data received on a display of the portable handheld device.

32. (Previously Presented) The method of claim 31, wherein the finger receiving surface captures a fingerprint image in varying illumination conditions ranging from bright sunlight to total darkness.

33. (Previously Presented) The method of claim 31, wherein the step of capturing a fingerprint image includes at least one of the steps of: positioning a finger on a finger receiving surface and scanning a rolled fingerprint or scanning a slap imprint of the finger.

34. (Previously Presented) The method of claim 31 further including the step of capturing a facial image and wireless transmitting the captured facial image from the portable handheld device to a central processor.

35. (Previously Presented) The method of claim 31 wherein the step of capturing a fingerprint comprises scanning a latent imprint using a photo capture sensor of the portable handheld device.

36. (Previously Presented) A portable apparatus for identification and verification of a fingerprint comprising:

- a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, wherein the handle portion and user interface portion are configured to allow the handle portion to be held by a single hand of an operator and the apparatus operated via the user interface using the same hand during image capture of the fingerprint;

- the user interface including at least a display and a finger-receiving surface to receive an image of a fingerprint of a subject while the apparatus is held by the operator of the portable handheld device;

- a sensor positioned within the housing to capture a fingerprint image from the finger-receiving surface;

- a processor positioned within the housing and electrically connected to the sensor to process the captured fingerprint image;

- a transmitter positioned within the housing and electrically connected to the processor to transmit a fingerprint image to a central processor for identification and verification; and

- wherein the processor is configured to receive data from the central processor relating to the processed fingerprint image and the display is configured to display the data to the operator.

37. (Previously Presented) The portable apparatus of claim 36 further including a removable light baffle for preventing illumination sources to interfere with capturing the fingerprint image on the finger-receiving surface.

38. (Previously Presented) The portable apparatus of claim 37 wherein the baffle is arranged and configured to align a fingerprint with the finger receiving surface such that fingerprint characteristics are properly located relative to the sensor.

39. (Previously Presented) The portable apparatus of claim 36 further including an ergonomic handle formed on the housing that provides for one hand operation and command of all the functions of the apparatus.

40. (Previously Presented) The portable apparatus of claim 36 further including a photo capture sensor to capture a facial image of the subject and a latent fingerprint alignment guide configured and arranged with respect to the photo capture sensor to obtain latent fingerprint images.

41. (Previously Presented) The portable apparatus of claim 40 wherein the alignment guide is removable.

42. (Previously Presented) A portable apparatus for identification and verification of a fingerprint comprising:

- a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, wherein the handle portion and user interface portion are configured to allow the handle portion to be held by a single hand of an operator and the apparatus operated via the user interface using the same hand during image capture of the fingerprint;

- a the user interface for the housing including at least a display;

- a photo capture sensor and a latent fingerprint alignment guide configured and arranged with respect to the photo capture sensor to capture a latent fingerprint image of a subject while the apparatus is held by the operator of the apparatus;

- a processor positioned within the housing and electrically connected to the photo capture sensor to process a latent fingerprint image;

- a transmitter positioned within the housing and electrically connected to the processor to transmit a latent fingerprint image to a central processor for identification and verification; and

- wherein the processor is configured to receive data from the central processor relating to the processed latent fingerprint image and the display is configured to display the data to the operator.

43. (Previously Presented) The portable apparatus of claim 42 further including:

- a finger-receiving surface to receive an image of a fingerprint and a sensor positioned within the housing to capture a fingerprint image from the finger-receiving surface; and

- wherein the processor is configured to process a captured fingerprint image and receive data from the central processor relating to the captured fingerprint image and the display is configured to display this data to the operator.

44. (Canceled)

45. (Currently Amended) A method of real-time identification and verification of the identity of a person comprising the following steps:

- capturing an image of a fingerprint of the person at a portable handheld system, said system comprising a housing including a handle portion having a distal end and a proximal end and

a user interface portion at the distal end of the handle portion, while the handle portion of the portable handheld system is grasped by a single hand ~~by~~ of an operator of the portable handheld system and the apparatus is operated via the user interface during image capture of the fingerprint;

processing the captured fingerprint image at the portable handheld system;

transmitting the captured fingerprint image from the portable handheld system to a central processor for processing;

processing the transmitted captured fingerprint image to determine if there is matching fingerprint information in central data storage;

receiving data from the central processor relating to a processed fingerprint image; and

displaying the data received on a display of the portable handheld system.

46. (Previously Presented) The method of claim 45 wherein the data includes a facial image.

47. (Previously Presented) A portable system for identification and verification of a fingerprint comprising:

a housing including a handle portion having a distal end and a proximal end and a user interface portion at the distal end of the handle portion, wherein the handle portion and user interface portion are configured to allow the handle portion to be held by a single hand of an operator and the apparatus operated via the user interface using the same hand during image capture of the fingerprint;

the user interface including at least a display and a finger-receiving surface to receive an image of a fingerprint of a subject;

a sensor positioned within the housing to capture fingerprint image from the finger-receiving surface;

a processor electrically connected to the sensor to process the captured fingerprint image;

a transmitter electrically connected to the processor to transmit an image to a central processor for identification and verification; and

wherein the processor is configured to receive data from the central processor relating to the processed image and the display is configured to display the data to the operator.

48. (Previously Presented) A portable system for identification and verification of a fingerprint comprising:

a handle portion of a housing having a distal end and a proximal end, said handle portion configured to be grasped by a single hand of an operator to thereby support the housing during imaging of a fingerprint of a subject;

a user interface of the housing, the user interface at the distal end of the handle portion and including at least a finger-receiving surface to receive an image of the fingerprint of the subject and buttons for operator data entry and execution, wherein the user interface is configured to be operated by the same hand of the operator via the buttons while the housing is being handheld by the operator during capture of the fingerprint image;

a sensor in the housing positioned to capture the fingerprint image from the finger-receiving surface;

a transmitter in the housing to transmit the captured fingerprint image to a central site for identification and verification;

a processor configured to receive data from the central site relating to the processed image;
and

a display configured to display the data to the operator.